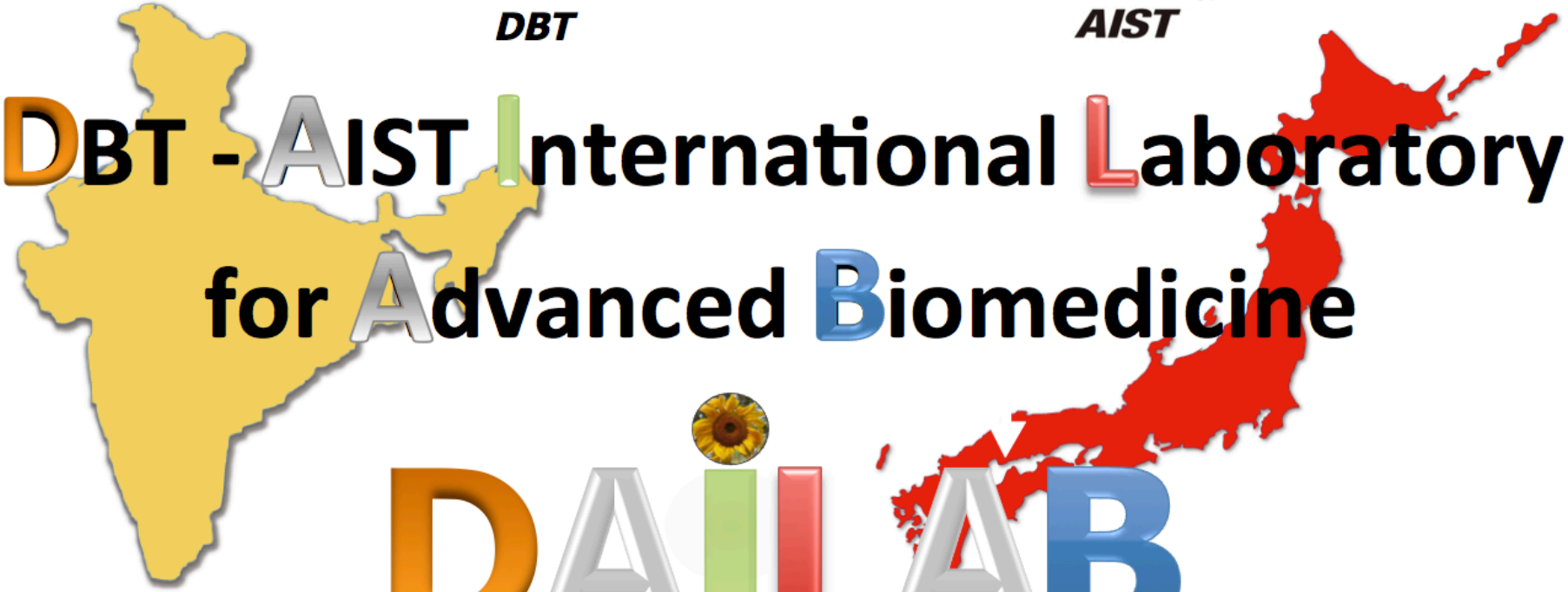
Department of Biotechnology
Ministry of Science and Technology
Government of India
DBT

National Institute of
Advanced Industrial Science
and Technology
AIST



DBT - AIST International Laboratory for Advanced Biomedicine

DAILAB

Classroom for Advanced & Frontier Education

CAFE

DAILAB-CAFE

Series - 024

Date & Time – November 13, 2017 (3:30 to 4:30 PM)
Venue - Central 5-41; 2F (Conference Room # 1)
Speaker – Yuzuru ITO
Title: **Facilitation of quality control of human stem cells**

Affiliation – Biotechnology Research Institute for Drug Discovery (BRD, AIST)
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Abstract: Human pluripotent stem cells (ES/iPS cells) are expected as powerful tool for regenerative medicine in the world. However, those cells are likely to lose the useful ability for therapy during culture, so it is said that the culture of ES/iPS cells is more difficult than the other cell lines. Moreover, when derivatives from ES/iPS cells (ex. cardiomyocyte, neuron, hepatocyte) transferred into patient body, we should remove the residual ES/iPS cells. If some ES/iPS cells remain, surgery patient maybe develop the tumor. To establish the facile, economical and safe regenerative medicine, we should develop several supporting technology for quality control, safety administration and so on.

In this talk, I demonstrate the potential of rBC2LCN as a probe for pluripotent ES/iPS cells in the imaging and the flow-cytometry. rBC2LCN is recombinantly produced lectin as N-terminal domain of *Burkholderia cenocepaci*-derived BC2L-C. It binds specifically to Fucα1-2Galβ1-3GlcNAc (GalNAc)-containing glycans. Fluorescence-conjugated rBC2LCN live-stained human ES/iPS cells and exhibited higher sensitivity on differentiation. So we expect that this property can contribute to quality control for mass culture of ES/iPS cells. Fluorescence-conjugated rBC2LCN was also capable to separate ES/iPS cells by the flow cytometry. rBC2LCN is a useful tool for evaluate ES/iPS cells and is hopeful for improvement of cell sorting efficiency in processes of medical and industrial application of implant cells.

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Series 24

Speaker: Yuzuru ITO

Topic: Facilitation of quality control of human stem cells

Date: 13th Nov., 2017
(15:30-16:30 h JST)

Host:
DAILAB@AIST, Japan

Thanks for participation!

National Institute of Advanced Industrial Science & Technology, Japan

IIT-Delhi, India

Peking University, China

Hanyang University, South Korea

University of Sri Jayewardenepura, Sri Lanka

Manipal University, India

Guru Nanak Dev University, India